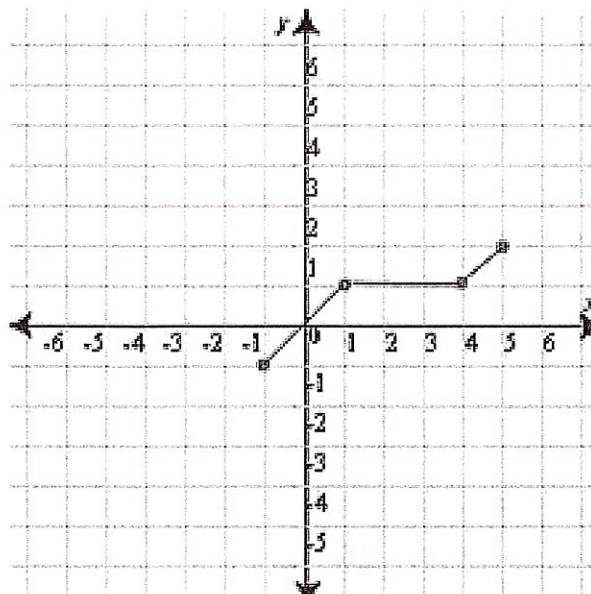


Name: Solutions

1. Shown is the graph of $y = f(x)$



1. Evaluate:

a. $f(-1) = -1$

b. $f(2) = 1$

c. $f(5) = 2$

2. Write the domain and range of the function using interval notation.

$D: [-1, 5]$ $R: [-1, 2]$

3. State the interval(s) on which the function is:

a. increasing

b. decreasing

c. constant

$[-1, 1] \cup [4, 5]$

None

$[1, 4]$

4. State the interval(s) for which:

a. $f(x) > 0$

b. $f(x) < 0$

~~$[-1, 0]$~~ $(0, 5]$

~~$[-1, 0]$~~ $[-1, 0)$

5. State each value:

a. the maximum value of $y = f(x)$

b. the minimum value of $y = f(x)$

$y = 2$ or $f(5) = 2$

$y = -1$ or $f(-1) = -1$

6. Solve $f(x) = 2$, i.e. for what value(s) of x does $f(x) = 2$ hold true?

$x = 5$

7. State the coordinates of each:

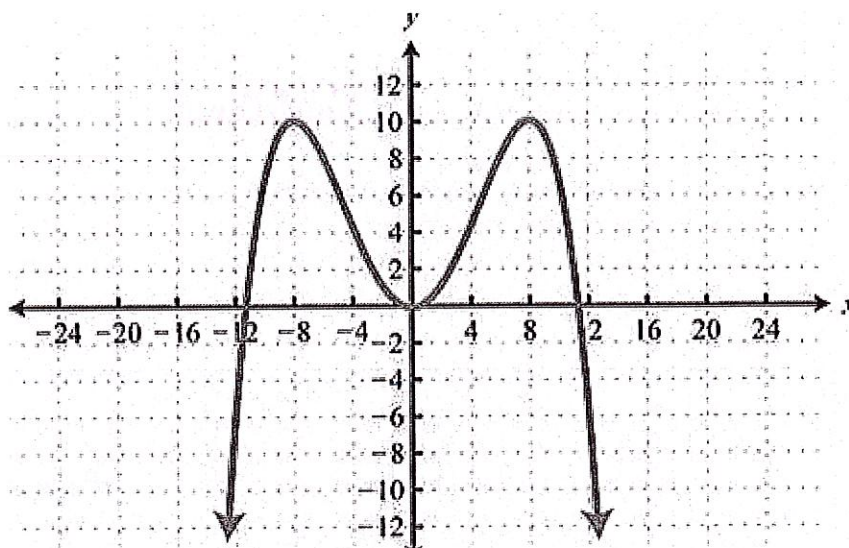
a. any x-intercepts

b. the y-intercept

$(0, 0)$

$(0, 0)$

2. Shown is the graph of
 $y = g(x)$



1. Evaluate:

a. $g(-8) = 10$

b. $g(-4) = 4$

c. $g(6) = 8$

2. Write the domain and range of the function using interval notation.

D: $(-\infty, \infty)$

R: $(-\infty, 10]$

3. State the interval(s) on which the function is:

a. increasing

$(-\infty, -8] \cup [0, 8]$

b. decreasing

$[-8, 0] \cup [8, \infty)$

c. constant

Never

4. State the interval(s) for which:

a. $g(x) > 0$

$(-11.5, 0) \cup (0, 11.5)$

b. $g(x) < 0$

$(-\infty, -11.5) \cup (11.5, \infty)$

5. State each value:

a. the maximum value of $y = g(x)$

$y = 10$

b. the minimum value of $y = g(x)$

no minimum

6. Solve $g(x) = 0$, i.e. for what value(s) of x does $g(x) = 0$ hold true?

$x = -11.5, x = 0, x = 11.5$

7. State the coordinates of each:

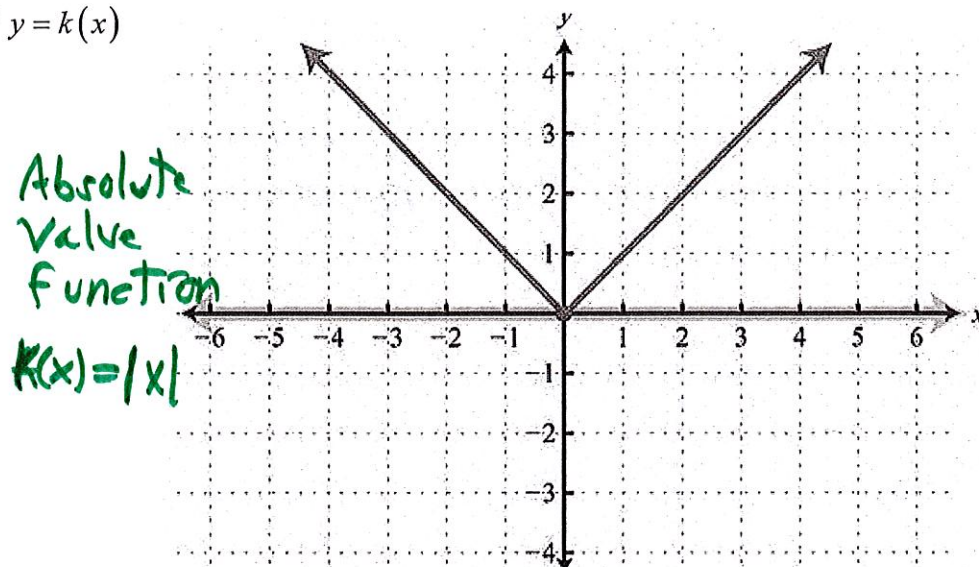
a. any x-intercepts

$(-11.5, 0), (0, 0), (11.5, 0)$

b. the y-intercept

$(0, 0)$

3. Shown is the graph of $y = k(x)$



1. Evaluate:

a. $k(0) = 0$

b. $k(-3) = 3$

c. $k(4) = 4$

2. Write the domain and range of the function using interval notation.

$D: (-\infty, \infty)$

$R: [0, \infty)$

3. State the interval(s) on which the function is:

a. increasing

$[0, \infty)$

b. decreasing

$(-\infty, 0]$

c. constant

never

4. State the interval(s) for which:

a. $k(x) > 0$

$(-\infty, 0) \cup (0, \infty)$

b. $k(x) < 0$

Never

5. State each value:

a. the maximum value of $y = k(x)$

None

b. the minimum value of $y = k(x)$

$y = 0$

6. Solve $k(x) = 1$, i.e. for what value(s) of x does $k(x) = 1$ hold true?

$x = -1$ or $x = 1$

7. State the coordinates of each:

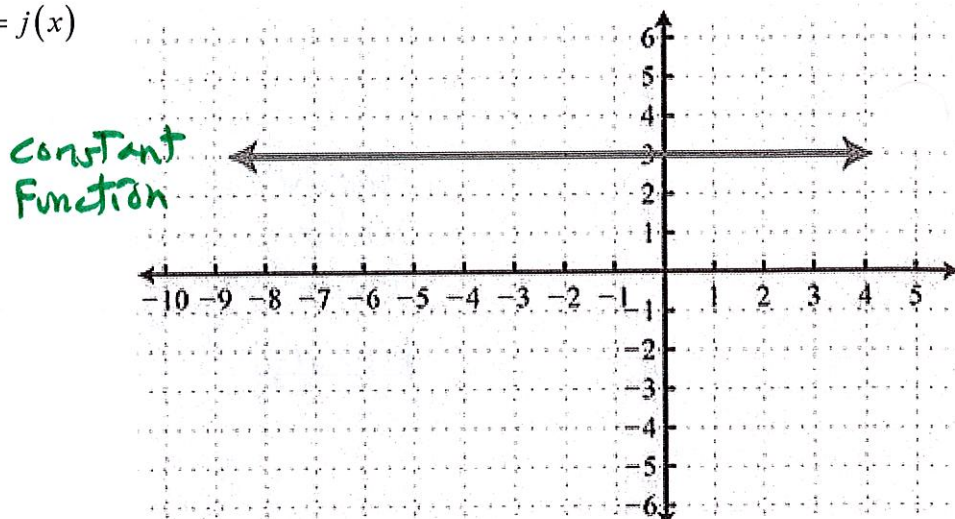
a. any x-intercepts

$(0, 0)$

b. the y-intercept

$(0, 0)$

4. Shown is the graph of $y = j(x)$



1. Evaluate:

a. $j(-7) = 3$

b. $j(2) = 3$

c. $j(5) = 3$

2. Write the domain and range of the function using interval notation.

$D: \{-\infty, \infty\}$

$R: y = 3$

3. State the interval(s) on which the function is:

a. increasing

Never

b. decreasing

Never

c. constant

$(-\infty, \infty)$

4. State the interval(s) for which:

a. $j(x) > 0$

$(-\infty, \infty)$

b. $j(x) < 0$

Never

5. State each value:

a. the maximum value of $y = j(x)$

$y = 3$

b. the minimum value of $y = j(x)$

$y = 3$

6. Solve $j(x) = 3$, i.e. for what value(s) of x does $j(x) = 3$ hold true?

$x = \text{all real \#s or } (-\infty, \infty)$

7. State the coordinates of each:

a. any x-intercepts

None

b. the y-intercept

$(0, 3)$